

IN THE CLAIMS

Cancel Claims 1 - 83.

84. (New) A method of providing an audio signal with an associated video signal, comprising the steps of:

decoding an encoded audio stream to provide an audio signal and audio description data; and

providing an associated first video signal at least part of whose content is selected according to said audio description data,

wherein said providing step comprises:

using said audio description data to select visual description data appropriate to the content of said audio signal;

constructing video content from said selected visual description data; and providing said first video signal including the constructed video content.

85. (New) A method according to claim 84, further comprising the step of extracting said visual description data from a transport stream.

86. (New) A method according to claim 85, wherein said visual description data is extracted from private data within said transport stream.

87. (New) A method according to claim 85, wherein said transport stream further comprises said encoded video and audio streams.

88. (New) A method according to claim 87, wherein said audio description data in said encoded audio stream includes identification data and clock reference data for use with said visual description data in said same transport stream.
89. (New) A method according to claim 88, wherein descriptors corresponding to said identification data and clock reference data are stored in private sections of said visual description data.
90. (New) A method according to claim 87, wherein said audio stream, said video stream and said visual description data are multiplexed into said transport stream which is transmitted in a television signal.
91. (New) A method according to claim 87, wherein said step of using said audio description data to select appropriate visual description data comprises selecting visual description data from the same transport stream.
92. (New) A method according to claim 83, further comprising the step of storing said extracted visual description data.
93. (New) A method according to claim 92, wherein said step of using said audio description data to select appropriate visual description data comprises selecting stored visual description data.
94. (New) A method according to claim 83, further comprising the step, prior to the step of extracting said visual description data, of encoding said visual description data.

95. (New) A method of delivering programme associated data to generate relevant visual display for audio contents, said method comprising the steps of:

encoding an audio signal and audio description data associated therewith into an encoded audio stream;

encoding visual description data; and combining said encoded audio stream and said visual description data;

encoding a second video signal into an encoded video stream;

combining said encoded video stream with said visual description data and said encoded audio stream into a transport stream; and

further comprising transmitting said transport stream in a television signal.

96. (New) A method according to claim 95, wherein said visual description data does not relate to the encoded video signal in the same transport stream.

97. (New) A method according to claim 95, wherein said visual description data does not relate to the encoded audio signal in the same transport stream.

98. (New) A method according to claim 95, wherein said transport stream is an MPEG stream.

99. (New) A method according to claim 83, wherein said visual description data comprises one or more of the group comprising: video clips, still images, graphics and textual descriptions.

100. (New) A method according to claim 83, wherein said visual description data is

classified for use with at least one of: at least one style of audio content, at least one theme of audio content and at least one type of event for which it might be suitable.

101. (New) A method according to claim 83, wherein said audio description data comprises data relating to at least one of the group comprising: singer identification, group identification, music company identification, service provider identification and karaoke text.

102. (New) A method according to claim 83, wherein said audio description data comprises data relating to the style of said audio signal.

103. (New) A method according to claim 83, wherein said audio description data comprises data relating to the theme of audio signal.

104. (New) A method according to claim 83, wherein said audio description data comprises data relating to the type of event for which said audio signal might be suitable.

105. (New) A method according to claim 83, wherein said audio description data is encoded within frames of said encoded audio stream, which frames also contain said audio signal.

106. (New) A method according to claim 104, wherein said audio description data is encoded as ancillary data within audio frames of said audio stream.

107. (New) Apparatus for providing an audio signal with an associated video signal, comprising:

audio decoding means for decoding an encoded audio stream to provide an audio signal and audio description data; and

first video signal means for providing an associated first video signal at least part of whose content is selected according to said audio description data,

wherein said first signal means comprises:

selecting means for using said audio description data to select visual description data appropriate to the content of said audio signal;

constructing means for constructing video content from said selected visual description data; and

means for providing said first video signal including the constructed video content.

108. (New) An apparatus according to claim 107, further comprising extracting means for extracting said visual description data from a transport stream.

109. (New) Apparatus according to claim 108, wherein said extracting means is operable to extract said visual description data from private data within said transport stream.

110. (New) Apparatus according to claim 107, operable when said transport stream further comprises said encoded video and audio streams.

111. (New) Apparatus according to claim 110, operable when said audio description data in said encoded audio stream includes identification data and clock reference data for use with said visual description data in said same transport stream.

112. (New) Apparatus according to claim 111, operable when descriptors corresponding to said identification data and clock reference data are stored in private sections of said visual description data.

113. (New) Apparatus according to claim 107, operable when said audio stream, said video stream and said visual description data are multiplexed into said transport stream which is transmitted in a television signal.

114. (New) Apparatus according to claim 110, wherein said selecting means is operable to select appropriate from the same transport stream as the visual description data.

115. (New) Apparatus according to claim 107, further comprising storing means for storing said extracted visual description data.

116. (New) Apparatus according to claim 115, wherein said selecting means is operable to select appropriate visual description data from the storing means.

117. (New) Apparatus according to claim 107, wherein said visual description data comprises one of: video clips, still images, graphics or textual descriptions.

118. (New) Apparatus according to claim 107, wherein said visual description data is classified for use with at least one of: at least one style of audio content, at least one theme of audio content and at least one type of event for which it might be suitable.

119. (New) Apparatus according to claim 107, wherein said audio description data

comprises data relating to at least one of: singer identification, group identification, music company identification, service provider identification and karaoke text.

120. (New) Apparatus according to claim 107, wherein said audio description data comprises data relating to the style of said audio signal.

121. (New) Apparatus according to claim 107, wherein said audio description data comprises data relating to the theme of audio signal.

122. (New) Apparatus according to claim 107, wherein said audio description data comprises data relating to the type of event for which said audio signal might be suitable.

123. (New) Apparatus according to claim 107, wherein said audio encoding means is operable to encode said audio description data within frames of said encoded audio stream, which frames also contain said audio signal.

124. (New) A system for delivering programme associated data to generate relevant visual display for audio contents, comprising:

audio encoding means for encoding an audio signal and audio description data associated therewith into an encoded audio stream;

description data encoding means for encoding visual description data; and

combining means for combining said encoded audio stream and said visual description data;

video encoding means for encoding a second video signal into an encoded video stream;

wherein said combining means is operable to combine said visual description data, said encoded audio stream and said encoded video stream into a transport stream; and

wherein said combining means is operable to combine said visual description data with encoded video signal to which it does not relate, in the same transport stream.

125. (New) A system according to claim 124, wherein said combining means is operable to combine said visual description data with encoded audio signal to which it does not relate, in the same transport stream.

126. (New) A system according to claim 124, wherein said transport stream is an MPEG stream.

127. (New) A system according to claim 124, wherein said visual description data comprises one or more of: video clips, still images, graphics and textual descriptions.

128. (New) A system according to claim 124, wherein said visual description data is classified for use with at least one of: at least one style of audio content, at least one theme of audio content and at least one type of event for which it might be suitable.

129. (New) A system according to claim 124, wherein said audio description data comprises data relating to at least one of: singer identification, group identification, music company identification, service provider identification or karaoke text.

130. (New) A system according to claim 124, wherein said audio description data comprises data relating to the style of said audio signal.

131. (New) A system according to claim 124, wherein said audio description data comprises data relating to the theme of audio signal.

132. (New) A system according to claim 124, wherein said audio description data comprises data relating to the type of event for which said audio signal might be suitable.

133. (New) A system according to claim 124, wherein said audio encoding means is operable to encode said audio description data within frames of said encoded audio stream, which frames also contain said audio signal.

134. (New) A system or apparatus according to claim 132, wherein said audio encoding means is operable to encode said audio description data as ancillary data within audio frames of said audio stream.

135. (New) A method of delivering programme-associated data to generate relevant visual display for audio contents, said method, comprising:

encoding audio description data relevant to the audio contents in one or more audio elementary streams; and

encoding visual description data created for audio contents for generating a visual display; wherein

said visual description data is relevant to at least one of the groups comprising: a generic audio style, a generic audio theme, special events and specific objects.

136. (New) The method of claim 135, further comprising the preceding steps of:

specifying preferred visual displays for the frames of said audio elementary

stream; and

constructing said audio description data using information relating to said preferred visual displays.

137. (New) The method of claim 135, wherein said specifying step comprises identifying at least one of:

the style of the audio content;

the theme of said audio frame;

an event associated with said audio frame; and

keywords in any lyrics of said audio frame;

and further comprising specifying a most preferred visual display after the identifying step.

138. (New) The method of claim 136, wherein said specifying step comprises specifying the preferred visual display for each of said frames.

139. (New) The method of claim 135, further comprising inserting said audio description data in ancillary data sections of said audio frames in said audio elementary stream.

140. (New) The method of claim 135, wherein said constructing step comprises:

specifying a unique identification code;

specifying a distribution flag for indicating distribution rights;

specifying the data type;

inserting text description describing the audio content;

inserting data code describing said preferred visual display; and

inserting user data code for generating the visual display.

141. (New) The method of claim 135, further comprising:

encoding background video into a video elementary stream; and

encoding the audio contents into said one or more audio elementary streams;

and wherein said audio description data describes said audio contents.

142. (New) The method of claim 135, wherein the step of encoding visual description data comprises encoding the visual description data into private data to be carried in a transport stream.

143. (New) The method of claim 141, further comprising multiplexing said video elementary stream, said one or more audio elementary streams and said private data into a transport stream for broadcast.

144. (New) The method of claim 135, further comprising delivering said audio description data and said video description data to a receiver for decoding and for generating said visual display.

145. (New) The method of claim 135, further comprising the step of providing said visual description data by downloading it from external media or creating it at a user terminal.

146. (New) A method of delivering Karaoke text and timing information to generate a Karaoke visual display for an audio song, said method comprising:

encoding said audio song into an audio elementary stream;

inserting clock references for use in synchronising decoding of said Karaoke text and timing information with said audio song in said audio elementary stream;

inserting channel information of said audio song in said audio elementary stream;

inserting said Karaoke text information for said audio song in said audio elementary stream; and

inserting said Karaoke timing information for generating scrolling said Karaoke text in said audio elementary stream.

147. (New) The method of claim 83, being used in digital TV broadcast and or reception.

148. (New) The method of claim 135, being used in digital TV broadcast and or reception.

149. (New) Apparatus for generating relevant visual display for audio contents, comprising:

storing means for storing visual description data that generate the visual display;

playing means for playing said audio contents carried in an audio elementary stream;

extracting means for extracting audio description data for said audio contents from said audio elementary stream;

selecting means for selecting preferred visual description data from said storing means using information from said audio description data; and

executing means for executing said visual description data to generate said visual display.

150. (New) Apparatus according to claim 149, wherein said executing means is operable to execute interactive programmes carried in said visual description data.

151. (New) Apparatus according to claim 149, further comprising:

receiving means for receiving a multiplexed transport stream containing one or more of said audio elementary streams and said visual description data carried as private data.

152. (New) A system for connecting audio and visual contents, comprising:

downloading means for downloading audio elementary streams for said audio contents and for downloading visual description data;

creating and editing means for creating and editing audio description data relevant to said audio contents carried in said audio elementary streams and for creating and editing visual description data for generating said visual contents;

selecting means for selecting said visual description data that best fits the audio description data for generating a visual display;

user operable means for modifying the behaviour of said selecting means; and processor means for executing said visual description data to generate the display.

153. (New) A system according to claim 152, wherein said selecting means comprise cognitive and search engines.

154. (New) A system according to claim 152, being a home entertainment system.